

# *Adopt a Stream*

## SHORELINE SURVEYS

A Stream Team Monitoring Project and Action Tool

Data Sheets



Riverways/Adopt-A-Stream Program Staff  
Rachel Calabro, Program Coordinator  
Amy Singler, Stream Team Organizer

Massachusetts Riverways Programs, Adopt-A-Stream Program  
Department of Fisheries, Wildlife, and Environmental Law Enforcement

Adopt-A-Stream Program: 617-626-1549  
FAX: 617-626-1505

**Adapted from Shoreline Surveys Leaders' Manual, Publication No.17795-94-500-2.08 CIR**  
Approved by Philmore Anderson III, State Purchasing Agent

*Prepared by*  
Joan Channing Kimball, Rachel Calabro

*Assisted by*  
Maria Van Dusen, Riverways Program Coordinator  
Karen I. Pelto, Stream Ecologist

## Tips for Shoreline Surveyors

### Safety and Legalities

- ◆ Always walk with someone.
- ◆ Watch out for irate dogs. Walk cautiously and practice good dog etiquette.
- ◆ Do not drink the river water.
- ◆ Lifejackets are required by law for each person in the canoe.
- ◆ From September 15 to May 15 all canoe or kayak occupants must wear a U.S. Coast Guard Approved Personal Flotation Device.
- ◆ Wear long-sleeved shirts and pants to protect against, ticks, mosquitoes, poison ivy and nettles.
- ◆ Wear insect repellent if necessary.
- ◆ Consider landowner rights. Ask permission to cross private land, posted or not.
- ◆ Do not enter posted areas without permission. Take advantage of any public access points.

### Environment:

- ◆ Don't walk on unstable banks; your footsteps could speed erosion.
- ◆ Be aware of wildlife and animal homes, for both of your sakes.

### **NEVER PUT YOURSELF INTO DANGER TO GATHER SURVEY INFORMATION.**

*If at anytime you feel uncomfortable about the stream conditions or surroundings, please STOP your Shoreline Survey. You and your safety are much more valuable than any of the objectives of the Shoreline Survey.*

### Checklist: What to take on your Survey

- \_\_\_ A buddy
- \_\_\_ Data sheets and map
- \_\_\_ Clipboard or other surface for writing
- \_\_\_ Two pencils – color is good to mark on maps
- \_\_\_ Long-sleeved, snag-free clothing /pants (for bugs and thorns)
- \_\_\_ Sunblock
- \_\_\_ Sunglasses (polarized to see into the water better)
- \_\_\_ Lifejackets & paddles if canoeing
- \_\_\_ Camera and film
- \_\_\_ Gloves
- \_\_\_ Copy of letter sent out to landowners

### Optional:

- \_\_\_ Rubber boots or waders
- \_\_\_ Yardstick or measuring tape (useful for pipes)
- \_\_\_ Compass
- \_\_\_ Field guides (in ziplock bags)
- \_\_\_ Food, for energy!

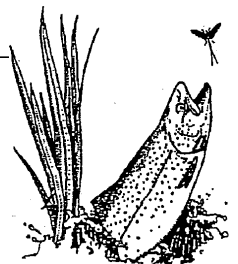
### **What you need to do:**

Tonight: Coordinate with your segment team. Arrange canoes, meeting place, etc.

This weekend: Conduct the survey! Fill out the data sheets while you're on the river.  
With your team, fill out the *Summary Sheets*—the segment description and the priority Sheet--after you are finished surveying your segment.  
Return all *Data* and *Summary Sheets* (one set per team) to:

\_\_\_\_\_ Return by: \_\_\_\_\_

This month: Attend action planning meeting, which will be held: \_\_\_\_\_



Segment begins: \_\_\_\_\_

Segment ends: \_\_\_\_\_

Date: \_\_\_\_\_

Observers: \_\_\_\_\_

Today's weather: \_\_\_\_\_

Weather over past 24 -48 hours: \_\_\_\_\_

If you take photographs, mark the location on the map, and write it on the backs of the photos, along with date. Be specific (reference nearby road or house), so that people can compare later photos

### INSTREAM CONDITIONS

#### Stream bottom

1. What is stream bottom made of? (mark from 1=most typical to 6=least typical)

\_\_\_ Organic debris (leaves, twigs)

\_\_\_ Gravel (1/4 - 2")

\_\_\_ Silt (mud)

\_\_\_ Cobbles (2 -10')

\_\_\_ Sand (1/16 to 1/4")

\_\_\_ Boulders (&gt; 10")

2. What color is the stream bottom? (circle one)

Black

Brown

Orange/Red

Yellow

Sandy

Gray

Other

#### Water

3. What color is the water? (circle) Cloudy Tea Milky Muddy Other \_\_\_\_\_

4. What is the water odor? (circle) None Rotten eggs Musky Fishy Oily Ammonia Other

5. Problem areas. (checkmark, describe location and cause, if apparent. \*Locate on map.)

\_\_\_ Oily sheen or smell \_\_\_\_\_

\_\_\_ Sewage: smell, milky color, toilet paper \_\_\_\_\_

\_\_\_ Foam or scum (describe. Does a stick break it up?) \_\_\_\_\_

\_\_\_ Fishy odor or fish kill \_\_\_\_\_

\_\_\_ Floating garbage \_\_\_\_\_

\_\_\_ Excess sedimentation \_\_\_\_\_

6. How deep is the water? (circle) Less than 1' More than 1' More than 2' More than 3'

7. How does the water level compare to normal for this time of year? (circle)

Normal

Higher

Lower

Don't know

If very high or low, can you tell why?

8. Is the water flowing (circle) Quickly Slightly Almost still

9. Number of pools Number of riffles Don't know

10. Is stream flow blocked by...(circle and \*locate on map.) Trees Trash Large objects

#### Vegetation

11. Are there areas of extremely dense or clogging aquatic vegetation in any section? (circle) Yes No

\*If yes, locate on map and describe cause, if obvious. \_\_\_\_\_

Species, if known (circle) Duckweed Water chestnut Other \_\_\_\_\_

12. Are there areas covered with algae? (Circle) Streambed Around pipes

If algae seems abnormally heavy, \*locate on map. Draw in extent of algae on map.

13. Are there wetlands? (Circle. \*locate on map.) Yes No If yes, are they degraded by... (circle)

Phragmites

Purple Loosestrife

Fill

Blockages

Ditches

Sediment

Disturbed banks

Pipes

Trash

Other \_\_\_\_\_

## STREAM CORRIDOR CONDITIONS

### Riparian Area and Land Use

14. Do trees and shrubs overhang the stream and provide shade? (circle) Yes No  
If yes, estimate what percentage of the bank is shaded

15. What are the stream bank conditions? (circle. Put a star\* next to the most common.)

Left Bank: (Looking downstream) (If doing only one bank, indicate which one)

Eroding Moss Trees/Shrubs Exposed Roots Grass/Flowers Loosestrife/Phragmites

Beaches Riprap/channelized Shrubs/brambles Wetlands/marsh

Right Bank: Eroding Moss Trees/Shrubs Exposed Roots Grass/Flowers Loosestrife/Phragmites

Beaches Riprap/channelized Shrubs/brambles Wetlands/marsh

16. Is there a vegetated riparian area beyond the stream bank? If yes, indicate condition.

(circle. Put a star\*next to the most common.)

Left Bank: Shrubs/grasses mowed pasture/meadow Forested/trees Park with few trees Lawn

Right Bank: Shrubs/grasses mowed pasture/meadow Forested/trees Park with few trees Lawn

If area is not vegetated, please describe condition: (i.e. parking lot, pavement, roadway, buildings)

Left Bank: \_\_\_\_\_

Right Bank: \_\_\_\_\_

17. If the riparian area is forested or in shrubs and grasses, estimate width of the vegetated area (to a lawn, road, or other change in land use) left bank \_\_\_\_\_ right bank \_\_\_\_\_

18. Are there places that have fill or clear-cutting? (circle) Yes No

If yes, mark locations on map as fill F1, F2, F3. Etc (or clear-cutting CC1 CC2, CC3, etc).

19. What are the land uses visible from the river? (checkmark and circle the dominant land use type.)

___ Industrial	___ Parking lots	___ Golf courses
___ Commercial	___ Roads	___ Protected/conservation land
___ Agricultural	___ Landfills	___ Undeveloped/unprotected land
___ Residential	___ Railroads	___ Wastewater treatment plants
___ Park/ ballfields	___ Junkyards	___ Wooded areas ___ Other (describe)

20. Do you see runoff from any of the following? (circle. \*If run-off is significant locate on map.)

Manure	Pet / goose droppings	Parking lots	Sewage	Roads
Bridges	Construction	Plowed fields	Lawns	Other _____

**Pipes:** Please fill out separate pipe survey and mark locations on map as P1, P2, P3, etc.

**Trash:** Describe any potential cleanup areas. \*Locate on map.

**Potential Open Space:** Describe and locate on map: \_\_\_\_\_.

### Recreation

21. Is there designated public access to the stream? Is it appropriate for... (circle and \*locate on map.)

Canoeing Fishing Swimming Walking Bicycling Other \_\_\_\_\_

22. Are there areas which are informal or potential access points? No Yes- Describe and \*locate on map.

**WILDLIFE / HABITAT**

**Aquatic Habitat/Species**

23. Do you see fish or evidence of fish? (describe) \_\_\_\_\_  
Estimate number \_\_\_\_\_. *If possible, describe species & size.* \_\_\_\_\_  
Evidence of fish? (i.e. nests) \_\_\_\_\_
24. Other forms of aquatic life? (*circle, identify species if known*)  
Aquatic insects    Turtles    Frogs    Salamander    Snail    Mussels    Snakes    Clams  
Other \_\_\_\_\_  
Evidence of aquatic species? (i.e. eggs, tracks) \_\_\_\_\_

25. Wildlife and fish habitat elements present in water (*check*)

☐ Pools and riffles in stream  
☐ Gravel stream bottom  
☐ Rocks and boulders in stream  
☐ Emergent aquatic vegetation  
☐ Vegetation hanging over the banks and water  
☐ Fallen trees in water  
☐ Undercut banks

**Riparian Habitat/Species (look along stream bank and vegetated riparian areas)**

26. Animals or evidence of animals? (*circle*)  
Holes    Teeth marks    Food storage/eating    Dens    Scat    Footprints/tracks  
Specific animals seen (or evidence of) \_\_\_\_\_
27. Wildlife habitat elements located near the stream (*check*)  
☐ Standing dead trees  
☐ Fallen tree limbs and trunks  
☐ Scattered rocks and boulders  
☐ Stone walls (without cement)  
☐ Vines  
☐ Springs and seeps  
☐ Vernal pools
28. Birds? (*circle*)    Herons    Mallard ducks    Wood ducks    Kingfishers    Canada geese    Other \_\_\_\_\_  
Evidence of birds: (i.e. nests, footprints) \_\_\_\_\_
29. Do you know if there are rare & endangered species of plants or animals in your segment? *If so, identify.*  
\_\_\_\_\_
30. Links from riparian area to other areas of wildlife habitat: (*check*)  
☐ Wetlands adjacent to stream  
☐ Abandoned cropland or pasture near stream  
☐ The riparian area is vegetated with trees and/or shrubs at least 100 feet wide  
☐ The riparian area connects to adjacent open space or greenway



**Optional: Additional Questions and notes.**

**Segment begins:** \_\_\_\_\_

**Segment ends:** \_\_\_\_\_

*As much as we try, our Shoreline Survey Forms do not always cover all possible questions and angles. If there are additional potential problems or features that your Stream Team decided were not adequately addressed, please make note of them here. Or, use this space for extra notes as you do your survey.*

## Shoreline Survey Summary Sheet

Segment begins: \_\_\_\_\_

Segment ends: \_\_\_\_\_

Date: \_\_\_\_\_

Observers: \_\_\_\_\_

Today's weather: \_\_\_\_\_

Weather over past 24 -48 hours: \_\_\_\_\_

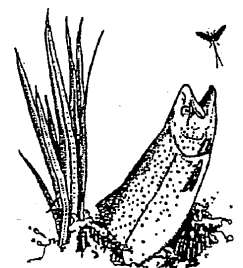
*These sheets are designed to give the “big picture” of your segment. They provide the basis of the narrative description of segments in the Shoreline Survey report.*

### NARRATIVE DESCRIPTION

**SAMPLE 1:** The river flows slowly through this segment. The banks on the south side are eroded for a distance of about 100 yards (a football field), with parkland behind it. On the other side of the river, the banks have cement walls, industrial buildings and parking lots. There was a marsh at the lower end. A small stream came into the river, and the water quality seemed worse after it entered. Bits of oil floated on the water, and the stream smelled like asphalt. There were a few gulls in the industrial section, and there were turtles, a muskrat hole and a great blue heron in the wetland/marsh.

**SAMPLE 2:** Segment 2 flows quickly through conservation land, with several small riffles. We saw several anglers along the banks. There were many downed trees in the stream, which provide good habitat for fish. Vegetation along the stream is thick, second-growth forest with an old dirt road providing good access for walking or mountain biking. There are several old appliances in the river near the Rt. 20 bridge.

*Describe your segment in a paragraph:*



# Adopt-A-Stream Pipe Survey of \_\_\_\_\_ River/Brook

Segment # \_\_\_\_\_

Date: \_\_\_\_\_

Names of observers: \_\_\_\_\_

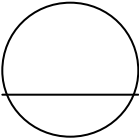
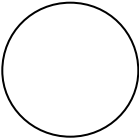
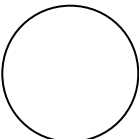
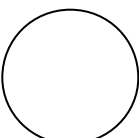
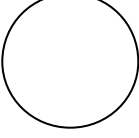
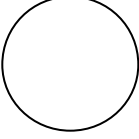
Weather today: \_\_\_\_\_

Weather over past 48-72 hours: \_\_\_\_\_

Segment Begins: \_\_\_\_\_

Segment Ends: \_\_\_\_\_



Pipe#	Time	Pipe material and condition	Pipe size & amount of flow	Color of Flow	Odor of Flow	Algae below pipe Yes No Describe extent	Sediment below pipe	Comments? If pipe should be rechecked- describe location	GPS Latitude GPS Longitude: (Optional)
Sample #1	9:33 AM	Concrete in good shape	 Constant Moderate Flow 1' diameter	Red-brown	fetid	Green growth coating rocks across the entire stream width and 100 yards upstream.	Sand accumulation at outfall	Should be rechecked. Downstream of Jones St. Bridge	
									
									
									
									
									





<p><i>Look back at your Field Data sheet and include your observations. The information from these sheets will be used to develop the Action Plan.</i></p> <p><b>PROBLEMS:</b> Problems found in your segment, such as: pipes discharging in dry weather erosion, runoff trash, dense algae water quality problems (odor, color, oil, foam, sewage) degraded wetlands (phragmites, loosestrife) other problems (<i>describe, give location</i>)</p> <p>1.</p> <p>2.</p>	<p><b>ASSETS:</b> Assets found in your segment, such as: Good habitat, wildlife species businesses or landowners using the river (in a friendly way) recreational access (canoe, trails, parks) potential recreational access potential park/conservation land (<i>describe, give location</i>)</p> <p>1.</p> <p>2.</p>	<p><b>PRIORITIES for action:</b> List items from problems/assets columns that you feel need more work.</p> <p>1.</p> <p>2.</p>
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# SAMPLE SHORELINE SURVEY MAP

Ficticious Brook, Anytown

Segment 4

5-23-99

